

APRIL/MAY 2024

**23UMB21 — MICROBIAL PHYSIOLOGY
METABOLISM**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define generation time.
2. Define chemostat.
3. List any two nutrients essential for the growth of iron oxidizing bacteria.
4. Define chemoorganotrophs and give an example.
5. Differentiate between homolactic and heterolactic fermentation.
6. What is the main function of the Electron Transport Chain?
7. Name any two photosynthetic pigment.
8. List out any two key products produced during Calvin cycle.

9. What is binary fission in bacterial reproduction?
10. Define conidia.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss about synchronous culture.
Or
(b) Summarize continuous fermentation process.
12. (a) Explain about active transport mechanism in bacteria.
Or
(b) List out the nutritional types of microorganisms.
13. (a) Discuss about ED pathway.
Or
(b) Elaborate note on oxidative phosphorylation.
14. (a) Distinguish between cyclic and non- cyclic photophosphorylation.
Or
(b) Demonstrate about chloroplast structure.

15. (a) Explain about bacterial reproduction through endospore formation.

Or

- (b) Outline the microalgae reproduction in detail.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Demonstrate about the microbial growth curve with neat diagram.
17. Illustrate about the factors affecting the microbial growth.
18. Elaborate note on TCA cycle pathway.
19. Explain in detail about Calvin cycle.
20. Discuss in detail about reproduction in fungi.